AUSTRALIAN SOCIETY FOR LIMNOLOGY INC

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MEMBERSHIP DETAILS

The Australian Society for Limnology Inc. (ASL) is an association of over 400 people with professional or amateur interests related to Australian inland waters. Since its inception in 1961, the society has played an important role in fostering limnology in this country. The ASL promotes liaison between limnologists in academic, government and private institutions and has a vested interest in the conservation of aquatic and related resources. Annual conferences are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL regularly produces a newsletter with notes on limnological activities, articles of general interest, book reviews and announcements of upcoming events likely to be of interest to members. Occasionally, it produces a Special Publication series and a Directory of Members.

Membership applications are welcome from any person with an interest in limnology. Five classes of subscribing membership are available:

Ordinary members	$ 25.00
Student members	$ 12.50
Life members	$200.00
Institutional members	$ 30.00
Sustaining members	Fees on application

Membership covers the period from 1 July to 30 June and all members receive the regular and occasional publications produced by the society. Members may also choose to receive the Australian Journal of Marine and Freshwater Science, the Australian Journal of Zoology and/or the Australian Journal of Botany at special reduced rates. The subscription for each journal is based on the calendar year in which the subscription is paid.

Enquiries relating to membership should be directed to the Membership Officer:

Mrs Margaret Hart
22 Netherby Avenue
MULGRAVE VIC 3170 Ph. (03) 5604406 [Fax (03) 5604406]

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Material for publication in the March 1993 issue of the newsletter should be sent to the editors before the 20 of February 1993.

Contributions are welcome on any topic concerned with limnology (or anything else that may be of interest to the readers). Long articles should be forwarded as unformatted text on IBM-compatible discs, or as formatted text in any commonly used word processing package (e.g. WordPerfect, Microsoft Word, Wordstar). All those with Macs, send hard copy to Leon (editorial addresses are included at the end of the executive list on the last page). The techno-challenged can also send camera ready copy.

Editorial

HOW (BLUE-) GREEN IS MY VALLEY?

The rivers are dying! The rivers are dying! So scream several headlines from editions of broadsheet newspapers across Australia. An uninformed Martian reading all this would conclude the following if it drew on the popular media as its sole source of information:

1. There are no rivers in Australia outside the Murray-Darling Basin.

2. All algae are blue-green and are deadly poisonous.

3. Nobody has ever mentioned any of this stuff to the press before.

4. Things are Dire and the CSIRO is going to fix it.

Fortunately, neither of your editors are phycologists, otherwise this editorial would probably be superheated by now. We guess that some media coverage is better than no media coverage, but really who *are* the media consulting over this lot? For the most part of the printed coverage we have seen, the journos seem to manage to avoid talking even to the people in CSIRO who actually know things about the Murray-Darling. Perhaps Griffith and Albury are too far to phone. Or perhaps it's because the whole issue is actually quite complicated, and the journalists don't have the time to get to grips with the issues.

And as for the state of the rivers being a Big Surprise... Hey! Us over here, we l-i-m-n-o-l-o-g-i-s-t-s have been saying lots of things on these issues over many decades in this country; we've even been saying them in a non-combative way to some of the right people. And there have even been officials who have been concerned about the issues, and tried to do something about them. But, oh no! The Story Must Be Told: Scientists Sleep and Bureaucrats Dither While Rivers Choke.

We need better environmental journalism than this. While part of the fault can be laid at our door - limnologists are hardly vociferous in the press - large sums of money have been redirected into public relations in most of our universities and CSIRO. So why do we get interviews with a molecular biologist in gumboots standing next to the Cook River rather than the folk in government agencies and universities who actually look at algae for a living? As scientists over the last 10 years we have had to become more accountable. Perhaps it is time for the same torch to be applied to sections of the media and their siblings sequestered in media units in our research organisations.

CRINGE, GROVEL, GROVEL, CRINGE

Mamma Mia, Mamma Mia; Mea Culpa, Mea Culpa. Ooooops! Our most obsequious and humbling apologies to the members of the 1992-93 Executive, who appeared to have been so unceremoniously replaced in the list in the last issue by the executive of the previous year. No, there hasn't been a bloodless coupe within the ASL. No, not driven by the lust for their lost power, the previous executive (1991-92) did not storm the editorial offices (thereby controlling the main ASL lines of communication) and stage a gun-toting, cigar-chewing take-over. No, it was not an editorial protest, totally independently demanding a change of ASL management (what do you think this is - "The Melbourne Herald-Sun"?). No. Nothing quite like that. The real reason is a bit more simple than that.

One of the Editors (as the ASL Newsletter is a blame-free collective production, we're not saying who it is - a bit of solidarity is required here please Leon), he who is responsible for the computer production, has a simple file template for the installation of the regular features - cover layout, notes on membership, complaints about lack of response to requests, content list ... and the executive list. Just pull up the file, modify issue and date numbers, and then place all the juicy bits in the middle. Of course, once a year when the executive changes, the template has to be updated and saved ... well, it should have been. Whoops! All it would have taken is <F10>,y,<F1> on the old WordPerfect after the updating, and the new executive would be in for life (well, until the next one). But no, the silly Editor in question (nameless) forgot to save the updated version, so when the next issue came up ... Retrieve the template file, plug in all the information, print, cut 'n' paste a bit, off to the printer and off to you. Pity the template had the old executive list. Sorry.

What can we say? The un-named editor really "Jeffed" it up. I blame the computer, new technology in general, and the new Liberal administration in Victoria, of course. But don't despair, for this issue has two executive lists - just cut the spare one out and paste it in the old issue (you, of course, keep these newsletters for future reference after reading them, don't you).

No-one will ever know.

PRATTLE, RUMOUR AND SCUTTLEBUTT

NEW SOUTH WALES

Correspondent: John Hawking, Murray-Darling Freshwater Research Centre, P.O. Box 921, Albury NSW 2640. Ph. 060-431002, Fax. 060-431626.

Charles Sturt University - Riverina

Snippets from Wagga (Pat Murray)

The aquatic biology group at CSU is bustling with activity. This year there are four students and one technical officer engaged in research projects in aquatic work, (ASL Newsletter Vol 29, No.4) from just billabong habitats to lowland streams as well. His data last year indicated that a number of frog species prefer to act as undercover agents in macrophyte beds.

Honours student with David Robertson, Colin Besley, has completed his comparative studies on macroinvertebrate communities associated with riparian tree roots and bare bank along the Murrumbidgee River between Gundagai and Wagga Wagga.

David Simmons, graduate student with Stuart Helliwell and David Robertson, is using large microcosms to study the environmental factors affecting the toxicity of 'Chlorpyrifos' in aquatic ecosystems, in particular its impact upon plankton. He hopes to eventually produce a computer modelling system for explaining the phenomenon.

Patricia Murray and Lorraine Hardwick are graduate students with David Robertson. Lorraine is floundering around two lowland creeks in the area, Tarcutta and Kyeamba, trying to develop a rapid assessment system for classifying lowland streams. Pat Murray will be having the onerous task of spending the summer in Kosciusko National Park and its surrounds looking at the distribution and the environmental factors affecting the Hydropsychidae, in particular the genera *Asmicridea* and *Cheumatopsyche*.

Mark Nolan, under the guidance of David Robertson, has just begun a DITAC-funded project with the Murray Cod Hatcheries aimed at improving silver perch fingerling survival in outdoor pools.

Sydney Water Board, Science and Environment

Sydney gossip (courtesy of Ruth O'Connor)

Our worst nightmare came true earlier in the month with some unexpected exterior remodelling of one of our vehicles happening at a time when we had sampling trips nearly every day and a period of wet weather. The second blow was Peter Swanson's appointment for a three year term position to work on the macrophyte beds at North Katoomba Sewage Treatment Plant (just jokes Pete). Maria Marzella has been monitoring inflows and outflows from two vertically flowing and two horizontally flowing beds since May and with Pete's expert assistance hopes to finally calculate a mass balance for the system.

The invertebrate megasurvey of sites that vary in their degree of pooiness is going full steam ahead. Debbie Rae, Ian Wright, Adam Boey and Paul McEvoy have been taking their card table and chairs to sites in the upper Nepean, Picton and the Blue Mountains resulting in a worrying build-up of little jars with pickled bugs. Bruce, our esteemed leader, sporadically manages to drag himself away from various meetings, task forces and think-tanks to help with the bug picking and draw all the new voucher specimens we're finding.

Dianne Flett's project on wet weather loads of nutrients and suspended sediments in the Nattai and Wollondilly Rivers has kicked into gear with some recent wet weather events. Anyone with proven skills in drought-making or destruction of auto samplers can reach her at West Ryde. The only good thing about the rain is that it might delay the upcoming blue-green algae madness.

Murray-Darling Freshwater Research Centre

Paul Boon and Brian Sorrell have recently begun working on their new LWRRDC project "Ecological processes for management of wetlands and floodplains - productivity and decomposition processes". The project addresses seasonal aspects of carbon cycling in wetlands and how they are affected by flooding and water level changes.

Terry Hillman has commenced writing up the results of his NRMS funded project "Response of aquatic micro and macro invertebrate communities to inundation of Barmah - Millewa Forests". John Hawking has finished his "Key to the dragonfly larvae from the Alligator Rivers Region of N.T. for OSS and has started on a "Key to the dragonfly larvae from NSW" for the Sydney Water Board.

There has been activity in Russel's Rotifer lab. Some interesting collaboration are under way, with Yoshi Kobayashi (Sydney Water Board) on microfaunal ecology of the

Hunter/Nepean system, and Dave Cartwright (Werribee T/C) on microfauna in the Werribee treatment ponds - Dave was seen lurking in the zooplankton lab. this week with volumes of doubtful substance containing tiny animals. Russ Shiel was on the Darling River blue-green scientific team last December (as were Rod Oliver and John Green, from Waikato University, who spent a year's sabbatical at MDFRC), and subsequent he has been involved with the Blue-Green Algae Task Force report, the Rural Water Corporation's restoration project on Lake Mokoan, and MDBC's In-Stream Bioremediation TAG group. For all you streamies, there's a whole world going unnoticed out there, but help is on the way - a series of *Guides to the microinvertebrates of the continental waters of the world* has commenced, published by Kluwer Academic Publishers. Ian Bayly's calanoids are among the first to hit the presses, Russ is on the editorial board for the global rotifer revision, and cladocerans and other microfauna are in the pipeline (no Leon, this is not a pun!).

NSW Fisheries - Narrandera

Contribution from Steve Thurstan and Paul Brown

Things are flowing smoothly in the river ecology group at the Inland Fisheries Research Station, Narrandera. Paul (don't leave my name off this time - John) Brown and Peter Gehrke are forging-upstream with the NRMS funded study of Larval fish communities & habitats in Western NSW. The 3 year study is targeting temporary and permanent aquatic habitats in four major catchment areas in an effort to understand what makes a good larval/juvenile habitat and why. The first round of sampling trips are due to dip into the Paroo and Darling Rivers in early December closely followed by the Murrumbidgee and the Murray sites around Xmas. Various strange social events surrounding the launch of the project have seen both scientists snapped in various embarrassing poses. Rumours that the first publication resulting from the study is to be a 10 x 12 glossy expose for the coffee-table, have not been denied.

Other projects in hand include Paul's strontium-marking of native fish otoliths, and flood-recruitment work. Information gleaned from samples of larval & early juvenile golden perch caught in Lake Pamamaroo (Menindee) indicates that larvae appeared closely following a flood in the Darling but were heavily parasitised by *Lernaea* sp. Peter is in analysis-mode with the study of the flooded Millewa forest and sometimes speaks nothing but SAS-code for days on end! The trip to the Paroo should rid him of that - he will be too busy trying to find some water in our "permanent" sites!

Conchostracan and anostracan production in the fish rearing ponds has got off to a good start this year with unbelievable blooms of these pesky plankton. Good numbers of Trout Cod and Murray Cod larvae have been sent in to do battle.

NORTHERN TERRITORY

Correspondent: Peter Dostine, Alligator Rivers Region Research Institute, Office of the Supervising Scientist, Jabiru, NT 0886

The limnological epicentre of the universe has shifted fractionally towards the NT, Dr Max Finalyson has temporarily ceased his peregrinations to take up another position at ARRRI; but there's more, Sam Lake has travelled thousands of kilometres to Jabiru to present his insights on species richness in streams, and to indulge in a bit of recreational angling. No damage done this time though, least of all to the fish. Meanwhile, dedicated Monash PhD student and junketeer Michael Douglas has returned from a trip to the UK, where amongst other things, he took the opportunity to meet Alan Hildrew at the University of London.

Chris Humphrey attended an ASTEC symposium in Darwin on "Research and Technology in Tropical Australia", and managed to contrive an appearance on the ABC news with a contribution to the debate on the "fast-tracking" of mining ventures. Chris is also developing another Honours student project on the place of freshwater snails in the wide world of biological monitoring. The project has been developed jointly with Dr Paul Lam of the Victoria University of Technology, and will examine the comparative responses of two species of congeneric freshwater snails in concurrent laboratory and field toxicity tests. Whiles on the subject of Honours projects, NTU student Rachel Paltridge received First Class Honours for her thesis "Microinvertebrate recolonisation of a temporary tropical stream", ANU student Rod Hardwick has just submitted his thesis on the application of chironomid pupal exuviae to biological monitoring of streams in the ARR.

Other visitors to ARRRI included herpetologist Dr Thomas Madsen on his annual pilgrimage to Ja Ja billabong on the Magela system to continue long term work on the population dynamics of the aquatic file snake.

Finally, Alice Wells has left her position as entomologist at the NT Museum to accept a position as Scientific Editor for the ABRS Zoological Catalogues. (A sad loss to aquatic entomology in the Top End!).

SOUTH AUSTRALIA

Correspondent: Marcus Brownlow, Department of Botany, University of Adelaide, S.A. 5000.

Zoology Department, The University of Adelaide

Heavy spring rains in the Flinders Ranges ensured that plenty of streams flooded, keeping Andrew Boulton suitably busy running water chems, mapping algal recovery, and collecting interminable numbers of bug samples. Luckily floods scoured out most of the permanent sites, so there's not too many bugs to count. While Peter Shultz finds that every spring is sacred (and different), Sam Wade found little evidence to suggest that road crossings altered the invertebrate fauna downstream despite big increases in silt and smothering algae. Fran Sheldon and Andrew Boulton were involved in a 4-day field exercise with a dozen high-school Biology teachers sampling bugs and macrophytes from Rocky River on Kangaroo Island as part of their Graduate Certificate in Science Education (Biology). Hopefully, if the teachers get keen, the students will too!!

In addition to counting endless zooplankton samples from saline lake predator-prey experiments Christine Campbell has been collecting zooplankton fauna from salt evaporation basins along the River Murray (Stockyard Plains, Berri and Noora Basins; research in conjunction with Prof. Bill Williams). Such basins are used to concentrate saline groundwater, the water being diverted before it goes into the River Murray Irrigation system. Stockyard Plains Salt Evaporation Basin, near Waikerie, receives water from both the Woolpunda Salt Interception Scheme and the Waikerie Salt Interception Scheme. Noora Salt Evaporation Basin receives water pumped out from Dishers Creek. While on salty things - Honours Students John Dalton-Morgan and Shaun "gonz" Meredith have completed projects on "Species Diversity in Saline Lakes" and "The Fauna of the Dry Creek Salt Works" respectively.

Botany Department - The University of Adelaide

The major event in the lives of the Adelaide botanical types was the invitation to inspect a series of reflooded wetlands of immense national significance. Marcus Brownlow and Alison Hay accompanied representatives of the Native Vegetation Authority on an extensive tour of upper south east wetlands in South Australia. Due largely to the efforts of the land owner Tom Brinkworth, vast tracts of grazing land have been reflooded with the aim of re-establishment and rehabilitation of wetlands in the area. Some areas have been recommended for Heritage listing, and negotiations are underway to include other areas.

Although the size of the area under consideration is impressive, the aquatic flora is not. With the exception of occasional *Lepilaena* and *Myriophyllum*, there are no aquatic species in the majority of these sites. Habitat diversity is therefore extremely low. Nevertheless the potential for re-establishment of aquatic flora, and the large scale rehabilitation of these areas into valuable wetland habitat is an extremely exciting proposition. A successful program would effectively link the Bool Lagoon system with the Coorong via a series of wetlands, and create a massive wetland complex of international significance. Watch this space for further news ...

NORTH QUEENSLAND

Correspondent: Paul Clayton, Department of Zoology, James Cook University, Townsville, Qld 4811. Ph: (077) 81 4520; E-mail: zlpdc@marlin.jcu.edu.au

Things are still quiet in the North.

WESTERN AUSTRALIA

Correspondent: Jane Chambers, B.E.S., Murdoch University, Murdoch, W.A. 6150.

Things seem quite there too - *Eds.*

TASMANIA

Correspondent: Leon Barmuta, Department of Zoology, University of Tasmania, G.P.O. Box 252C, Hobart, 7001; e-mail: Leon.Barmuta@zoo.utas.edu.au.

University of Tasmania at Hobart

From: Leon Barmuta.

Mnnnk! Ummph... gurgle.

Inland Fisheries Commission

From: Paul Humphries

Since last we spake, IFC has lost three temporary employees due to grants running out. Mark Nelson, Henry Maxwell and Jan Barton have all gone in one way or another; Jan is currently investigating the truth behind that old saying about African men, Henry is filling fridges (which makes a change from emptying them) and Mark still seems to be haunting us mortals. Initial attempts to engender some between conference ASL enthusiasm proved disappointing recently, with a total of six (yes 6!) people turning up for a get together and chat about limnology. The fact that four of the six were employees of Inland Fisheries is a sad indictment of the state of limnological entrepeneurism in Tasmania (I will only excuse people not there for geographical reasons since the rest of you were given > 3 weeks notice!!). In these times of conservative governments and a 'development-at-all-costs' mentality, I would have thought that there would be less apathy and a little bit more vigour. It is especially sad that the traditional home of radical and free thought, enthusiasm and action - the University - was represented by only two ASL members (and one of these being Mr President). Maybe I am mistaken and all limnological problems in this well-watered state were solved while I was in Western Australia. It almost makes one want to yell "Where are you Pierre when you're needed?!", but I wouldn't do that.

[Anyone interested in keeping a bi-monthly informal ASL Tasmania chapter going should get in touch with either Paul or Leon so that we can get a mailing list together.]

LWRRDC RESEARCH AND DEVELOPMENT PLAN 1992-1997

From: Michele Barson, Bureau of Rural Resources, DPIE,
P.O. Box E11, Queen Victoria Tce, Canberra 2601

This is the second R&D Plan developed by the LWRRDC to outline its research and development directions for the future. This Plan varies from the 1991-92 R&D Plan in a number of ways, the most important of which is the progress in articulating more clearly the framework to be used by the Corporation for prioritising, developing, undertaking and evaluating R&D in a more coordinated way. The Corporation will continue to emphasise the development of links between resource users, managers, and regulators, and the research community which can develop the knowledge base they require. It will also continue to pursue collaborative R&D programs which help to break down disciplinary and administrative boundaries in order to provide a more comprehensive approach to the practical solution of resource problems.

Funding Areas

The LWRRDC will fund land, water and vegetation R&D activities which will contribute to sustainability of resource use, increased land productivity, improved land and water quality, a better understanding of ecological processes and better management and conservation of these resources. In respect of vegetation R&D, the LWRRDC will fund work which addresses vegetation resources as they affect or are affected by primary industries.

Given an expected R&D funding budget of approximately $9m and a normal funding cycle (3 year projects on average for the general call and 5 year projects for commissioned programs) the Corporation anticipates funding new projects annually worth about $2m. Funds for new activities will be allocated either as a result of an annual call for R&D proposals or at the initiation of the LWRRDC through jointly-commissioned programs. Over the life of this Plan the emphasis will shift more to the commissioning process.

Sustainable management of land resources is one of the Corporation's four program areas, within this area individual issues identified for further work include:

- Prevention and reversal of soil degradation by erosion, acidification or structure decline
- Development of practical indicators for sustainable production systems
- Prediction, prevention and reversal of dryland salinity

Development of production systems based on integrated catchment management

Understanding and overcoming barriers to adoption of sustainable production systems.

More specific R&D objectives will be identified by examining each individual topic against a number of R&D activities including "Resource Assessment and Dynamics", "Framework for Policy and Management" and "Sustainable Resource Use and Management".

Copies of the Development Plan have been widely circulated to research organisation administrators, resource agency coordinators, landcare facilitators and researchers. If your organisation doesn't have a copy, write to LWRRDC, GPO Box 2182, Canberra ACT 2601, Fax: (06) 257 3420 to be included on the Corporation's mailing list.

STREAMLINE: Australia's Natural Resources Database

From: Michele Barson, Bureau of Rural Resources, DPIE,
P.O. Box E11, Queen Victoria Tce, Canberra 2601

New subjects... Wider scope... More information...

From 1982 until 1990 the STREAMLINE database was produced by the Department of Primary Industries and Energy and was the cornerstone of Australia's water information network. It contained over 25,000 bibliographic records of Australian and international published and unpublished sources of information on all aspects of water and wastewater including, water quality and quantity; water resources management, investigation and development; water legislation, regulations and administration; urban water utilities; water uses; aquatic environments; the water/land environment interface; and related conservation, recreation and health issues.

In July 1990, the Land and Water Resources Research and Development Commission (LWRRDC) was established and took over responsibility for STREAMLINE. Sadly, STREAMLINE languished while the LWRRDC established its identity as a national focus for awareness of key research and development issues in natural resource management.

In August 1992, the LWRRDC agreed to sponsor a new look STREAMLINE database, providing information on all aspects of natural resource management including:

Land resources: prevention, prediction, reversal and sustainable management of soil degradation and dryland salinity; development of sustainable primary production systems;

land rehabilitation; integrated catchment management; resource assessment; conservation of natural resources; land use and management; landcare; soil erosion, acidification and structural decline; environmental management; ecological management.

Vegetation resources: rehabilitation and management of riparian vegetation and remnant vegetation for habitats and biodiversity; condition, productive capacity and environmental values of rangelands; agroforestry; vegetation rehabilitation; ecological processes.

Irrigation systems: sustainable production systems; efficiency of water use; irrigation drainage; reuse systems; use of saline water and rehabilitation of saline areas.

Water and wastewater utilisation: water quality and quantity; water resources management, investigation and development; water legislation, regulations and administration; urban water utilities; water uses.

Proposed access to STREAMLINE'S information resources includes:

- continuation of the online database on the CSIRO Australis network
- a printed current awareness service called STREAMLINE Update: abstracts from Australia's Natural Resources Database, available by subscription commencing in January 1993
- Selective Dissemination of Information services
- current and retrospective subsets of the database in the form of printed compendiums or databases on diskette with information retrieval software
- access to STREAMLINE on INFORMIT's new CD-ROM on Engineering and Applied Science due for release in November 1992.

Infoscan Pty Ltd has been appointed as the database manager and producer and is responsible for collecting and indexing/abstracting the core material for the online database. Infoscan will also market the database and its new range of products and services which will be available in the near future.

Queries concerning the database and its products and services should be directed to:

Streamline Manager, Infoscan Pty Ltd, GPO Box 155, Canberra ACT 2601
Tel: (06) 257 3379 Fax: (06) 236 6440

LIMNOLOGICAL STUFF

Should We stay in FASTS?

Leon Barmuta, President and Powerless Despot of your Society.

A perennial issue that most members find about as interesting as a bucket of sand *without* any psammon in it, smoked or otherwise (sorry about that).

Anyway FASTS stands for the Federation of Australian Scientific and Technological Societies. It was formed some years ago to act as a lobby group for said societies in Canberra. Part of your ASL membership (about $2.50 per member) presently goes to FASTS to maintain its secretariat and lobbying activities.

Opinion is divided about how valuable FASTS is to the ASL membership. For many years, FASTS did little to help freshwater sciences, but by the same token we did little to make FASTS aware of our needs. Just when everyone thought it was a big waste of time, FASTS jumped up and down about the demise of AWRAC and the Centres - unsolicited. In the last two years, Stuart Bunn has pursued FASTS and a few allied aquatic science societies (e.g. AMSA) with some vigour to try to get a better deal for we wet folk out of the Federal Government. So the embers of a working lobby group are alive, but they need a lot more oxygen or something.

The executive of the ASL would like you to think carefully about the value we get from FASTS and to make your views known at the next annual general meeting at Congress in Queensland. We would like to make a decision at that meeting about our continued involvement in FASTS.

The case against staying in FASTS is that it costs us a lot of money that could be used better elsewhere. For example, we have not increased our allocation of funds for subsidizing student travel for several years, and we face increased postage costs when Australia Post gets rid of its reduced rate for Category B publications. In addition, it seems that what lobbying power ASL does have gets diluted: i.e. we have to lobby FASTS to then lobby government.

The case for staying in FASTS is that ASL is too small to have any political effect by itself. Few of our members live in Canberra, and most of them are too busy to add sitting around ministers' waiting rooms to their work programmes. In addition, the previous president of ASL has put in a fair bit of work to make FASTS more aware of our needs; perhaps FASTS has been poor value for money because we have been too shy about

approaching them about our particular issues. FASTS is sufficiently well-funded to maintain links with all political parties and in the long run may be able to generate more interest in freshwater issues if we make enough noise about it.

ASL has a strong tradition of letting our members decide important issues. I am keeping my opinions to myself; please bring yours along to the AGM in 1993 or send them to the Newsletter (usual response expected ... prove us wrong ... we dare you! - *Eds*).

WANNA HANDLE LOTSA MONEY?

Margaret Hart has been our Society's Membership Officer and Treasurer for 10 years or so, in an entirely voluntary capacity, and she's not even a limnologist. Margaret has done an excellent job, as our trouble-free auditor's reports attest, and apart from one incident involving a glass of red wine and a disk drive, the mailing labels usually get through to the fretting, unreasoning and entirely thuggish editors of this esteemed journal.

On occasion, Margaret has been heard to utter gasps of exasperation with this thankless task, but she is happy to soldier on for some time yet. However, she doesn't want to do it forever, and it would take a fair bit of advanced planning to pass the job onto someone else. So here is not very urgent plea for anyone out there with a yen for being treasurer and membership officer. Please let us know. The job comes with a small Macintosh to manage the files, a fax machine that allows you to use your phone and lots of POWER. On the downside, there's lots of cheques to bank, some members who sort of don't remember to pay, and many others who don't tell us they've moved - and they tend to grizzle a lot. The Editors are nice though, if you keep them well-wined.

CALL FOR JOLLY AWARD NOMINATIONS

The Jolly Award commemorates Hilary Jolly, a founding member of the Australian Society for Limnology and is presented to a person who, in the opinion of the Society, has made an outstanding contribution to Australian limnology. The Jolly Award is the society's most prestigious award, considered by members to recognize scientific excellence and outstanding achievement.

Any person may be nominated for the Award, but nominations may only be made by financial members of the society. Nominations must be seconded by another financial member of the society and must include a brief supporting statement and a current copy of the nominee's curriculum vitae. Nominations remain valid for 3 years. An award is not necessarily made each year.

The full regulations governing the award have been published in the Newsletter, Volume 28, Number 1, February 1990.

Nominations are now called for 1991 and should be forwarded, by 21st April, to: Dr I.C. Campbell, Water Studies Centre, Monash University, East Caulfield 3145, Victoria.

FIFTH TAXONOMY WORKSHOP

GUEST SPEAKERS: Dr Ros St Clair (formally [and formerly as well- *Eds*] of Monash and James Cook Universities) will conduct a Caddisfly session on identification of larvae from the family Leptoceridae. John Hawking (Murray-Darling Freshwater Research Centre) will conduct sessions on identifying dragonfly larvae and on the keys that are available to identify aquatic macroinvertebrates in Australia.

VENUE AND DATE: The workshop will be held at the Murray-Darling Freshwater Research Centre's laboratory, Ellis Street, Thurgoona, via Albury, NSW and will be conducted over the 9th and 10th February.

Registration Fee:- Participants $35.00, Full-time Students $20.00

CONFERENCE ENQUIRIES; John Hawking Murray-Darling Freshwater Research Centre, P.O. Box 921 Albury, NSW, 2640. Phone 060-431002

CHIRONOMID CAPERS

A review by Leon Barmaid (the only name that Cranston's spell-checker will let me have).

Here's one for the Chrissie stocking. The *Newsletter of Chironomid Research* is an international offering edited by Ulrike Nolte of the University of Mato Grosso, Brazil. Newsy, full of info on other people's collections of pupae, exuviae, etc., ads for keys, sizzling banter from our own P. Cranston, and a Directory of Chironomid Workers. Who shall I send my samples to *this* month? If you want to subscribe, $15.00 to Peter Cranston, CSIRO Entomology, GPO Box 1700, Canberra 2601.

Why not buy a gift subscription for a resident near a Perth wetland soon? It will lift their spirits immensely as they take in their *Cryptochironomus*-coated laundry...

Conference News Department

Details and an application form for the upcoming conference are included with this newsletter. For convenience, we include the rules for the Student Travel Award and the Student Prize again.

STUDENT TRAVEL AWARDS

Applications are invited from research students for travel assistance to attend and present a paper at the Annual Congress of the Australian Society for Limnology. The purpose of this assistance is to encourage students to present the results of their work in public. Students who are carrying out research in any branch of limnology for a higher degree are encouraged to apply. The following rules apply to this assistance:

1. Applicants must be full-time postgraduate students at any Australian University, College of Advanced Education or Institute of Technology. There is no age limitation. Applicants must have been current financial members of the ASL for at least 6 months.

2. Assistance will be granted on the recommendation of a panel of three appointed by the Society.

3. Applications must include a written statement of no more than 2000 words describing the research, its significance and the stage that has been reached. This statement must be endorsed by the student's supervisor. An abstract of the paper that applicant proposes to present must also be included.

4. Award of assistance will be judged on: (i) significance of the work; (ii) originality and soundness of the research; (iii) the progress made and whether the stage has been reached where something useful can be presented; (iv) ability to present a clear and concise statement of the study.

5. Applications must be lodged with Dr Stuart Bunn, as indicated on the registration form.

STUDENT PRIZES AT THE ANNUAL CONFERENCE

At the Annual Conference, there will be three student prizes of books (chosen by the recipient) to the value of $100. The prizes are:

1. Prize for the best oral presentation by a Ph.D. or Masters student.
2. Prize for the best poster presentation by a student.
3. Prize for the best oral presentation by an Honours student.

Posters will be assessed during the dedicated poster session and must be attended by the author, who will explain the presentation and field questions. There will be no oral sessions concurrent with the poster session. The Honours prize was felt desirable because for a number of years members have felt that recent Honours graduates are less experienced at oral presentations and are therefore disadvantaged compared with other graduate students who have nearly completed their research. We hope this prize will encourage recent Honours graduates to attend Congresses and share their results with other members of ASL.

To be eligible for a student prize, students should be current, financial members of ASL, and must give their presentation within 18 months of receiving their degree. This "18 month rule" may be varied if successive Congresses are more than one year apart (so for 1993, 18 months is it!). The student prizes will be judged by a committee or committees convened by the ASL Executive at the Congress. Wherever possible, such committees will not contain supervisors or co-authors of candidates for the prizes.

WELCOME TO NEW MEMBERS

New South Wales wins a commanding victory in the quest for new members since the last Newsletter. Of the 5 new members ... um ... well ... er ... all 5 are from New South Wales. What's happened? Have all the other states stopped producing limnologists?

Dr David Ayre
Dept. Biological Sciences
University of Woolongong
New South Wales

Mr Peter Adcock
Water Research Laboratories
University of Western Sydney
Hawkesbury NSW

Ms Veronica Campagna
Dept. Water Resources
West Ryde NSW

Ms Debbie Rae
Water Board
Dept. Science and Environment
West Ryde NSW

Mr Alistair Buchan
Dept. Water Resources
Leeton NSW

60 MINUTES

ASL Executive Meeting by Teleconference, 15 October 1992

Present: R.Marchant, M.Hart, P.Humphries, P.Dostine, B.Pusey, L.Barmuta, P.Boon (last two by separate phone calls).

1. Special publications: the latest publication (key to adult Trichoptera) cost $5488 to print and post to all members; 600 copies were printed, 480 or so for members and the rest for sale to non-members. Margaret Hart (treasurer) considered that this was expensive and was the type of expense that could not be met regularly without running down the society's finances. It was suggested and agreed that the next special publication (a key to larval Trichoptera) should still be sent free to members (as all special publications have been in the past) but only to those who request it via a form to be put in the newsletter. It would still be sent to all institutional members (mostly libraries) without a request. Thus fewer copies would need to be printed initially and less would be spent on postage, which is becoming very expensive ($1208 of the $5488 above). If this strategy does not cut costs, then members might have to be charged a small amount e.g. $5 to recoup some of the costs.

2. Current finances: Margaret Hart reported that the balance in the current account was $5682.36 (30/9/92). Receipts since April were $21753.20 and payments $28925.67; the balance at the beginning of April had been $12854.83. The society had also received $1500 from the tax office for taxes that the society had paid in the past but was not liable for. Annual subscription notices will be sent out to members soon.

3. ASL chapter in Tasmania: Tasmanian members are going to form a local chapter of the society in order to become more active in lobbying politicians (and as an excuse to have regular piss-ups). Anyone interested should get in touch with Leon Barmuta or Paul Humphries.

4. FASTS: Leon Barmuta felt that the ASL should make up its mind finally about its membership of FASTS. No correspondence has been received by the newsletter editors about this matter. Perhaps a way to resolve the question might be to announce in the newsletter before the next ASL conference that FASTS will be an agenda item for the AGM and that members will be asked (after discussion) to vote on whether the ASL should remain a full member.

5. 1993 conference: Brad Pusey reported that arrangements were being made. The organisers were considering having a workshop on riparian zones on the first day but this was still to be decided. Accommodation had been booked and registration forms and calls for abstracts would be sent out with the December newsletter.

R.Marchant, ASL Secretary

EXTRA LEUNIG

OUR JEFFABILITY
Dear Jeff, you've changed to "Jeffrey"
And though that's very deft
I still retain the feeling
That we're going to be jeffed.
You seem distinctly jeffish
With jeffing on your mind.
Will you jeff us in the face
Or jeff us from behind ?
Will there be jeffology
With large jeffistic sweeps ?
I guess you think we're jeffable
Until we're jeffed for keeps.
But Jeff, now why choose "Jeffrey"?
Did Jeff feel somewhat small
To know he only won because
We had no choice at all.
Leunig

Reports from The XXV International Society for Limnology (SIL) Congress - Barcelona

No. 1 from P. Boon

A Homage to Catalunya, or Six Weeks in Spain

I've heard that travel diaries can have two effects on their readers: the first is the reports are so engaging that the reader can't wait to board the next plane; the second that they are so damning the reader thanks god he never did. I'm not sure how my notes on Spain will affect the subscribers to this journal, for I have mixed feelings about the conferences I attended there. When I heard the 25th SIL meeting was to be held in Barcelona - that home of Picasso, Miro, Dali, Gaudi, and almost the last retreat for the ravaged Anarchists holding out against Franco's henchmen - I decided I just had to go. And the drawing power of two conferences - XXV SIL and the 6th Microbial Ecology Symposium - added extra attraction, besides the thoughts of visiting friends and colleagues (Jordi de Manuel from Barcelona and Laura Serrano from Seville) who worked at the MDFRC long ago, when Spain could afford to support its students working in foreign countries. Not to mention fino and manzanilla, tapas, flamenco, gypsies, Moorish architecture, and Spanish ceramics and ironwork.

Anyway, a battalion of luminaries assembled to entertain and educate us at the SIL congress. All the big names were there. The problem was the talks were uniformly so bad and unoriginal that I felt decidedly angry at paying over $500 registration fees for a motley collection of outdated papers and home-spun philosophy. However, the quality of papers at SIL was a revelation compared with what I was to endure at the Microbial Ecology meeting. The worst talk I have ever experienced - by an elderly statesman of microbial ecology - was delivered as an early lecture:. boring, self-centred, self-congratulatory, poorly delivered, negligible scientific content, a rehash of what was said years ago. My registration fees (exorbitant as they were) went to support this nonsense! To be fair, this awful performance was balanced to some extent by the best talk I have experienced, given by Bob May of Oxford. He was captivating, intelligent, witty: if only all talks be so wonderful.

The other problem was the venue for the Microbial Ecology meeting was the Royal Conference Palace, and its officials had a severe case of bureaucratese. You could be mugged in the outside streets, but the conference officials were quite sure not a single person would enter the rooms until exactly five minutes before the sessions were to begin. Moreover, the meeting after ours was to be a Sony trade show, and the venue organisers were convinced that this was the Real Event; a piddly scientific conference was not. That

justified their rebuilding the conference centre around us, so it would be perfect for their wealthy Japanese guests. A few other consolation prizes did come my way, though: for instance, it was good to see what Spanish limnologists were up to and the only way to do this was to visit their country and work alongside them. And the SIL organisers did a great job on the mid-conference excursions.

It was also interesting to note the development of fashions in science, which the past few Microbial Ecology conferences aptly demonstrate. In the early-mid 1980's, microbial ecologists were obsessed with measuring bacterial production with tritiated thymidine. Then in the late 1980's, the use of 16s ribosomal RNA to enumerate specific taxonomic groups was the way to go. Now it seems that the nasty action of viruses in slaying bacteria and algae is the flavour of the month, and will engender a rash of grant applications, many articles in Nature and Science, and the meteoric promotion of the key players.

Having survived a chase through the backblocks of Barcelona with two ruffians intent on separating me from my travellers cheques, I caught a train to Seville to participate in Laura Serrano's PhD examination. Now booking a train seat is an interesting experience in Spain. One would think, perhaps naively, that the Rapido was the fast train. But no, one would be wrong. The Rapido is the slow train, and the fast one is the Targo. Laura, as usual, helped me survive these traumas. Laura's examination demonstrated clearly that the Spanish have lost none of their old fair for the Inquisition. What a saga! She had five examiners, then had to defend her work in public and be questioned for nearly 1.5 hours by the panel, then be subjected to questioning, in strict hierarchical order, by anyone with a PhD from her University then anyone from any other University. It was a gruelling experience, but one which she passed with flying colours. I was really proud to have been collaborating with her in Australia. I have a copy of her thesis, which is about the effect of polyphenols, leached from the fringing vegetation, on algae and zooplankton dynamics in dune ponds in Donana National Park, if anyone wants to look at it. The problem is it's in Spanish, but that of course makes it about as intelligible as most other theses that are in English.. Two good aspects about the Spanish PhD examination process flows from the choice of five or more examiners. First, it removes the arbitrariness that can afflict a review if there are only two reviewers. Second, with five reviewers the candidate gets comments from a diverse range of people with different expertise. Laura's examiners, for example, included a ground-water fellow, a biochemist, a zooplankologist, a terrestrial ecologists and a microbiologist.

In Seville, I couldn't miss the opportunity to get my hair cut and beard shaved by the "Barber of Seville". Trying to describe just how much hair you want removed, in a foreign language, is not for the faint-hearted. In any case, while sitting in the barber's chair and he standing next to me, honing his fearsome cut-throat razor on the leather strap, I wasn't so much worried about the cut of my hair as the slashing of my throat: was this man a Sweeney Todd? It was a good hair cut, though.

The other funny thing about attending conferences in Spain is the odd sense of "other-worldliness" you get, arising from living in a foreign country. The Spanish people, excepting the muggers in Barcelona, are wonderful and generous and helpful. And then there's the food. Long being a fan of the odd drop of sherry (for medicinal purposes only), I found Seville and Jerez to be a dream come true. Solid food had its risks though. I was once with one of Laura's friends, and not knowing an item on the menu, asked her to translate for me. She said it was squid testicles. Now I thought, this was a simple error and what she really means is squid tentacles, or good old-fashioned calamari. "I'll have a plate of that" I ordered confidently. Well, she was right and my assumption proved wrong. I didn't even know squid had testicles until a plate of the loathsome, white nuggets arrived on a plate. A further example: in yet another tapas bar, Jordi de Manuel described one dish as a "regional Catalonian delicacy". I ordered it. Silly move. What I got was 3 metres of boiled pig intestine with chick peas. I don't know whether the peas were the pig's Last Supper, or whether they were added as a garnish afterwards.

Besides the conferences and examination panels and food and sherry, the wonderful about Spain is the art. Nothing can prepare one for the Sagrada Familia in Barcelona: a fantasy of melting chocolate transformed into stone. The modern sculptures adorning it are pretty ghastly though: Robert Hughes describes them as "the most blatant mass of half-digested modernist cliches to be plunked on a notable building within living memory". Then there is the Alcaza in Seville, the amazing Moorish fortress-come-palace, which was vandalised by crusading Christians in the twelfth and thirteenth centuries. I had a good time in Spain, helped largely by my friendship with some of the locals. I don't know how it would have been had I not had Laura and Jordi to guide me through the intricacies of Spanish life and customs and menus. The conferences were, largely, overpriced fizzers, offset mainly by the opportunity they create to meet with colleagues from across the seas.

No. 2 from I.C. Campbell

The XXV SIL congress was held in Barcelona from the 21 to 27 August. The Congress was intriguing for a number of reasons, not least the delights and dangers of Barcelona! Around 800 participants attended, with about 13 from Australia, but the mix of nationalities was somewhat different to that at previous SIL congresses I have attended. There were fewer Americans this year, probably partly because of the Ecological Society of America holding its annual meeting in Hawaii in the previous week, and partly because of the expense of Barcelona. On the other hand there was a dramatic increase in participants from eastern European countries who are now free to attend foreign conferences if they can raise the money - an a lot of them could!

Congress participants were welcomed to Barcelona by Mr Albert Vilalta, Minister for Environment for the province of Catalonia, who spoke in English for about 20 minutes

at the opening plenary session without once mentioning Spain. I was told by a Catalan that "Fawlty Towers" is very popular in Barcelona, but in their version all of the characters speak Catalan *except* for Manuel who speaks Spanish (Castilian). Those of us who thought that after the Olympics prices in Barcelona would be cheaper were in for a rude awakening - even the Olympic souvenirs were still full price. Paul Boon carried out a quick survey of accommodation prices in Barcelona, which commenced shortly after his hotel told him their daily rates. Apparently they had discovered in advance that he was on a CSIRO salary and were charging him accordingly!

Congress participants were also welcomed by the local pickpockets and muggers - who had apparently been run out of town during the Olympics but were back trying to make up for the two weeks or so of lost earnings. Richard Marchant claims to have been mugged while up a back alley with Nina Hemphill, a claim which raises a number of interesting questions which, in the interests of good taste I shall not explore further here.

The Australian bid for the SIL congress in 2001 was discussed at a meeting of the national representatives. Although the bid received strong support with both the Secretary General, Bob Wetzel, and the President, Petur Jonasson, speaking in favour of an Australian congress, a decision was deferred for a year. The deferral was requested by the Indian delegate, because India also intends to bid for the 2001 congress but the Indian members have not had time in the three years since the last congress to prepare their bid documents. It seems likely that the Australian bid will be accepted.

Several other significant decisions were also reached at the meetings of the national representatives, and ratified by the general meeting. SIL intends to establish student travel awards to provide financial assistance to students to attend future congresses. Charles Goldman is chairing a sub-committee to draw up suggested guidelines for the awards, but they are likely to include membership requirements of some kind, probably 2 or 3 years prior membership, for eligibility. That means that students interested in attending the Sao Paulo (Brazil) meeting in 1995 should be considering joining SIL now.

SIL is also moving towards electronic publication of the proceedings of the congresses (*Ver. Internat. verein Limnol.*). The proceedings have been a somewhat controversial issue within SIL for some time. At present the papers are of limited length (page charges apply after 4 pages) and the time taken for production of the proceedings is quite long relative to most journals. This is largely due to the size of the Verhandlungen - the last volume, volume 24, was published in 5 parts and totaled almost 3300 pages. The size of the Verhandlungen also makes them expensive to produce and to distribute (they are distributed free to all members). It is now expected that, by the 1995 congress, manuscripts will be accepted on disk, and by the 1998 or 2001 congress the entire proceedings will be distributed on disk. It is hoped that this will allow larger papers to

be accepted and reduce publication and distribution costs. It should also speed up the editing process.

In the scientific sessions of the Barcelona congress there was a notable increase in the emphasis on environmental concerns beyond the usual papers on stream pollution and lake eutrophication. Sessions were held on conservation of inland waters, the impact of non-indigenous species, ecosystem manipulation, ecotones and biotic diversity, and aquatic ecosystem health. River ecology (two full days) was still prominent, as was zooplankton ecology and phytoplankton ecology (a day each) but there were also two half day sessions on microbial ecology - one general session and one on the microbial loop in lakes.

SIL congresses always seem a little overwhelming, if for no other reason than the six or so parallel sessions. There are always a lot of people you want to talk to, but finding anyone is a problem. Most participants at Barcelona (or at least those not on CSIRO salaries) stayed at the student dormitories - a bargain at only $AUD80 per day including meals which always included at least one edible component and cold showers. This made it far easier to find people than at some previous congresses (at Munich people were in hotels scattered throughout the city), and the dormitories were conveniently close to the lecture theatres and poster sessions. There was even a bar - but it was mostly closed - a state of affairs which would not be tolerated at an Australian conference. Fortunately if the state of depression induced by the closed bar was too great, you could go downtown an look at the Gaudi cathedral, a spectacular building that has been under construction for about a hundred years and is about a third finished (and they say that the Australian BLF is bad!) or the Picasso museum, which is fantastic but, according to Richard Marchant, is closed on Sundays.

Australian limnologists who are not yet members of SIL (shame on you!) can join by contacting Ian Campbell, Water Studies Centre, Monash University, East Caulfield, VIC 3145, and paying the paltry sum of $40.65 for their annual membership. At that price even Tim Doeg can afford to join (hey, that's about 3 months wages under our enlightened new administration - *Ed. from Victoria*). And for those in other states remember Victoria needs the money more than you!

FRESHWATERSPONGES FOR FUN (AND PROFIT?)

From: Graeme Mason, Archaeological Labs, University of Otago, PO BOX 56, DUNEDIN, New Zealand
E-mail: ANTHTECH@OTAGO.AC.NZ. Ph (day): 03-479 8741 (AH): 03-473 0034; FAX: 03-4741 607

World-wide, there are about 230 species of freshwater sponge, placed in 39 genera and four families (my current work is indicating that maybe 8-10 families are needed to properly accommodate them). All presently known species belong to the class Demospongiae and have siliceous spicules ranging in size from 10--400µm. Typical of their marine relatives, they are filter feeders capturing viruses, bacteria and organic particles in the 500nm--10µm size range with a variable capacity to ingest objects up to about 50-60µm diameter. Ten gm of sponge (dry wt) will filter about 1000 litres of water a day.

Asexual reproduction is by means of gemmules, small spherical bodies typically 300-1000µm in diameter. They are formed when conditions become unsuitable and hatch into a miniature sponge on the return of an appropriate ambience. Gemmules have a micropyle with or without a porus tube for the hatchling to escape through. The gemmule walls generally contain spicules (gemmoscleres) either radially or tangentially arranged. These later, in conjunction with the characters of the gemmule, the skeletal spicules (megascleres), and the microscleres (in the dermal membrane and mesenchyme, if they are present) are the main means of species and genus diagnosis. Identification is usually imposible without the gemmules. More of this anon.

The animals range in size from a few square mm to metres square (in the case of some thin, encrusting forms), but are typically a few cm across and mm to a cm or so thick. Cushion shapes are common and digitate and arborescent growths not unusual. Many are brilliant green from symbiotic algae and those that are non-symbiotic, may be yellow, tan, gray, off-white and a variety of generally pale colours. Nearly all fresh waters, lentic or lotic, to salinities of about 15 p.p.thousand will support sponges--if there is not gross chemical pollution. Brown and black waters are no impediment, but chronically muddy conditions and swift, silt-laden water are usually depauperate.

At 25 known species, Australia has quite a good sponge faunule [um.. is this a word? - *Eds*]. The most recent published work dealing with Australian freshwater sponges is Stanisic, 1979 (*Proc. Linn. Soc. NSW* 103:123-130) who deals with some new species from the Northern Territory, including a *Metania* (Fam. Metaniidae), a genus otherwise known only from tropical rainforest areas, particularly in South America. (Incidentally, does anyone know where Stanisic is working these days??) The next most recent paper is

Racek, 1969 (*Aust. J. mar. Fwat. Res.* 20:267-310) who critically reviews the then known Australian species and includes a useful key and bibliography of the earlier Australian literature.

A detailed look at the global biogeography is next on my list as soon as the last systematic questions are settled (and there are plenty of them). However, it seems at this stage that the affinities of the Australian species will be largely 'Gondwanan' with a small endemic element. Three species (*Ephydatia ramsayi, Radiospongilla sceptroides, Heterorotula nigra*) are shared with New Zealand, as is a forth, truly cosmopolitan animal, *Eunapius fragilis*. New Zealand has a fifth species, *H. kakahuensis* which is apparently endemic. It will be interesting to see how the species from Fiji, New Guinea, New Caledonia and the rest of Melanesia are related to the Australia/NZ group.

For persons interested in environmental change, human impact on aquatic ecosystems, palaeoenvironmental reconstruction and related matters, work done on sponge remains in North America and Europe show considerable promise. Opaline spicules preserve well and the proteinaceous gemmule walls are not too uncommon in unoxidized Quaternary deposits. Interpretation of the remains does demand, however, that there is knowledge of the present-day ecological requirements of the various species. A wide-open field in Australasia, it would seem.

For those wishing to collect and identify sponges, the simplest scheme is, if the specimen has gemmules (which can usually be easily seen with the naked eye, being yellow, brown or generally darker-coloured than the flesh), to put it straight into 70% ethanol, with the substrate. Gemmules are frequently fixed to the sponge support (sticks, stones, plant stems etc) and are easily lost if the sponge is torn or cut off. If the animal lacks gemmules, it can be returned to the lab (or base camp) in a container of habitat water and left for a fortnight, with no special precautions to make it comfortable with respect to light, temperature etc. Outrages (such as anoxia) are not recommended, just enough discomfort to produce gemmules which should happen in 1-2 weeks. A small sample (a few mm^3) boiled with conc. nitric acid then rinsed with water to remove the acid will give a spicule preparation which can be placed on a well-slide for microscopic examination. Permanent mounts should be made with a high refractive index mountant.

I will be very pleased to receive material for identification (aha ... the key phrase we all want to see - *Eds*), and will be delighted to field queries and supply information. There is obviously a good deal of work to be done to determine species ecology and distributions, but the payoff in having another tool for palaeoinvestigations and other purposes should more than compensate the effort.

CONFERENCES AND WORKSHOPS

** denotes new listing.

International Conference on Environmental Biometrics, 14-15 December 1992, Sydney, Australia. Topics include environmental monitoring, assessment and prediction of change, statistics in environmental health, sampling and analysis of environmental data. Abstracts to: Dr J.C. Evans, Water Board, PO Box 73, West Ryde 2114. Organiser: Dr Walter W. Piegorsch, U.S. National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, NC, U.S.A. Fax 1-919-541-7843.

Southern Temperate Ecosystems: Origin and Diversification, 18-22 January 1993, Hobart, Tasmania. A conference on the evolution, biogeography and sustainability of southern ecosystems, not just *Nothofagus*. Contact: Dr R.S. Hill, Plant Science, University of Tasmania at Hobart, GPO Box 252C, Hobart, Tas 7001; ph (002) 20 2601; fax (002) 20 2698; e-mail: Bob.Hill@plant.utas.edu.au.

Sustainable Forestry in Australia: Future Directions, 7-10 February 1993, Armidale, N.S.W.. A Maurice Wyndham Conference that will include a session on "Forest Values", of which water is one. Contact: Mrs Jean Seppelt, New England Conference Management, UNE, Armidale 2351; ph (067) 73 2539; fax (067) 73 2769.

First ANZ Meeting on Quaternary Dating, 8-11 February 1993, Canberra. The title says it all. The first of a biannual series to catch up on the latest methods and their glitches. Contact: Mrs J. Papps, R.S.Pac.S., ANU, GPO Box 4, Canberra, ACT 2601; ph (06) 249 4764; (06) 249 0738.

**** Fifth ASL/MDFRC Invertebrate Taxonomy Workshop**, 9-10th February 1993, Albury, N.S.W. This year it's Leptoceridae and Odonata!! Starring Ros St. Clair and John Hawking. Contact John Hawking, MDFRC; ph (060) 43 1002.

Aquifers at risk: towards a national groundwater quality perspective, 15-17 February 1993, Canberra; organised by ANU & BMR. CONTRIBUTIONS invited. Contact Shirley Kral, ANU Centre for Continuing Education, GPO Box 4, Canberra 2601, ph (06) 249 4580, fax (06) 257 3421.

1st Society of Environmental Toxicology and Chemistry World Congress, Lisbon, Portugal, 28-31 March 1993. Conference theme: Ecotoxicology and environmental chemistry - a global perspective. Contact: Prof. Dr. A.M.V.M. Soares, Department of Zoology, University of Coimbra, 3049 Coimbra Codex, Portugal; fax +351-39-24-226.

The 5th International Lake Conference on the Conservation and Management of Lakes, Stresa, Italy, 17-21 May 1993. Organised by ILEC (International Lake Environment Committee Foundation). Contact R.M. Societa di Congressi s.r.l., Via Ciro Menotti 11, 20129 Milano Italy.

The Ecological Basis for River Management, 23rd-26th March 1992. An international symposium on river management covering water quality and quantity, fish stocks, amenity & recreation, the natural environment, and catchment land use. Contact Dr David Harper, Ecology Unit, Department of Zoology, University of Leicester, Leicester LE1 7RH, England.

** **23rd Annual Congress of the Australian Society for Limnology,** April 14-16, Marcoola, Queensland. No further comment; you'll hear about it soon enough.

Towards Biodiversity and Conservation, 12-16 July 1993, Brisbane Qld. Call for papers on the conservation and diversity of invertebrates including protists. This biodiversity conference promises to emphasise invertebrate issues as well as the more usual ones. Contact: Dr Glen Ingram, Queensland Museum, PO Box 3300, South Brisbane, Qld 4101.

** **Malvern International Conference on Geological and Landscape Conservation,** 17-24 July 1993, Great Malvern, England. A conference about the conservation of geological and geomorphological features. Contact: Margaret Phillips, Teh Company, St John's Innovation Centre, Cowley Road, Cambridge CB4 4WS, U.K.; Fax +44 223 421158.

3rd International Congress on Medical and Applied Malacology, Camden, N.SW., 19-23rd October 1993. There will be three general symposia: 1. Economic, medical and veterinary aspects of parasites; 2. Molluscs and agriculture; 3. Aquaculture of molluscs. **One of the proposed excursions is to a "Fluke Infested Property".** Contact Phil H. Coleman, Division of Invertebrate Zoology, Australian Museum, PO Box A285, Sydney South, N.S.W. 2000; phone (02) 339 8112; fax (02) 360 4350.

** **12th International Symposium on Chironomidae,** ?22nd- 26th January 1994, Canberra, A.C.T. Contact Peter Cranston, CSIRO Entomology, GPO Box 1700, Canberra 2601; fax (06) 246 4000.

LIMNOLOGY BIBLIOGRAPHY 30(4)

Some response from the multitudes is better than none, but it still isn't enough given the number of publishing members. Two thoughtful authors sent floppies with their full bibliographies - these can readily be checked against the complete ASL Bibliography and missing citations copied. If you want to have a useful, complete database of ASL publishing activity, please send your complete bibliography on disk, any MS DOS-compatible format. Disks will be returned. To: Russ Shiel MDFRC, PO Box 921 Albury NSW 2640.

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REGULAR XMAS CHILDREN'S PAGES SPECIAL

ASL NEWSLETTEREDITORS' XMAS GRANT PROPOSAL TIPS

Ahh! The days of simply knowing the referees in order to guarantee a grant are long gone. Simple bribes seem to be failing as well; besides how many limnologists *have* spare BMWs to give to referees anyway? And as for blackmail - Rupert and Kerry seem to have stitched up the market for photographic negatives in order to keep their media clear for photos of scantily-clad Royals and corgis and things. So what's a lean, hungry limnologist who's had a Kennett of a day to do?

We at the bi-focal, trans-Bass Strait offices of your Society have worked day and night over room temperature cabernets and lightly-chilled semillons trying to wrack our remaining, synapsing neurones about what the research committees *really* want. We scanned carefully the relevant pages of *The Australian* (i.e. Doonesbury strips) and recovered hundreds of pages of discarded press-releases from rubbish bins outside the offices of V-Cs and prominent funding agencies. Here are our guidelines distilled from hours of detailed research, and a very nice West Australian chardonnay. We can't guarantee that these will work for everyone, but give them a spin and let us know how you go. Good luck.

1. If you insist on working outside the cell membrane, use a satellite.

2. Avoid maps; use a GIS instead.

3. Never use a metre stick when you can use an echo sounder.

4. Ensure all study sites are either south of the Antarctic Circle or north of the Tropic of Capricorn.

5. Are you *sure* you can't get "Asia-Pacific Rim" into the title?

6. If your organism cannot be eaten, make sure it harms something or someone, preferably in a marginal electorate.

7. All algae must be blue-green ones.

8. All analyses must be multivariate, and be presented using confusing 3-D four-colour graphics. In fact, an animated sequence on CD-ROM would be good.

9. Collect and analyse the data *before* you write the proposal. It's the only way to write successful progress reports.

10. When it's built, make sure it is big enough to be opened by the Minister *and* the Vice-Chancellor together.

COLIN'S BIG ADVENTURE

Eds: We didn't write this. It was contributed by somebody who would prefer to remain anonymous. We don't know why, but we always respect the wishes of our contributors.

As a young man embarking upon the new and exciting world of science, Colin constantly wondered at what it took to be successful in this most demanding of professions. He began his PhD with high hopes, low self-esteem and an empty wallet. A scholarship helped to buy the luxuries of life, such as food and alcohol and it was in a slightly inebriated state that he first began his research.

Initially he spent endless months reviewing the most tedious, dull and monumentaly conceited literature ("We only sampled every hour for 12 years at 65 sites in the lower reaches of the Zambezi, but we'd like to thank NASA for funding the project") in libraries which invariably either stopped subscribing to the journal that he was after, had only started subscribing to it last month, never subscribed to it at all or had every volume except the one he wanted. More confused than when he started, he realised that he was in need of an hypothesis. "Where will I find one of those?" he asked himself. After looking behind several bookshelves and asking the librarian who sat under the big INFORMATION sign and still failing to find what he was looking for, he gave up and decided to get on with the research and hope that an hypothesis would turn up before too long.

So he set out to design his field sampling regime. He attempted to take into account everything ever written on the subject and for brief periods worshipped the Gods Connell and Hurlbert. He sat up late at night while his spouse-equivalent slept and quietly gestated and in the wee small hours weighed up the pros and cons of whether to use a Latin or Greek square design and attempted to determine if his replication was 'pseudo', 'true' or just plain absent.

Then came the actual sampling itself. He alternately froze and fried his proverbials off in each month, on a new moon, just after sunset, without disturbing the animals that he hoped to catch. Heisenberg's Uncertainty Principle kept looming in his mind as he sloshed through the thigh-deep water and annoying thoughts like, "If it works at the level

of the electron or photon, what hope have I got at the level of the individual, let alone the community?!". His mind became clouded from sniffing too much 10% neutral-buffered formalin and benzocaine (since, at times his intentions were to prevent regurgitation of the stomach contents), but he carried on regardless.

After 12 months of field sampling, he stumbled on the hypothesis, that had so long alluded him, in an alleyway near the squash courts. At first he didn't recognise it, but as he realised what was lying in the dirt amidst the used condoms and hair removal cream, he leaped high in the air and whooped with joy. Colin decided then and there, while cradling his new hypothesis tenderly in his arms, that he would perform some experiments. He frantically read papers extolling the virtues of field experiments, but soon noticed that all the locations where these experiments were performed were either on 'rocky intertidal platforms' or in 'small ponds'. Since he was studying fish and since they weren't large-mouth bass or bluegills (two fish which can be placed in a beaker of conc. H_2SO_4 on a slow boil, at zero gravity, while sitting in front of the Steve Vizard show and still produce meaningful behavioural results) he reverted to, horror of horror, laboratory experiments. His advisers and benefactors tried to talk him out of it, his wife threatened to leave him and his children began to laugh at him behind his back, but to no avail.

After carrying out the field work and experiments and after several long and painful years, Colin faced the laborious and daunting task of ANALYSIS. This term usually rates alongside Auschwitz, Pol Pot, Armageddon and Hinch in the horror which it invokes, but he didn't sway from his goal. So Colin had to make the unenviable decision whether to use nested or non-nested ANOVAs and whether his factors were fixed or random. And if that wasn't bad enough there were onomatopoeic things called *a posteriori* multiple comparisons tests to contend with (the term obviously coined by some Freudian rebirthing mathematician with an Oedipus complex).

Finally after years of dedication and exhausting work which had lost him his spouse-equivalent and his love-children he got to write the paper. "At last", he thought, "the culmination of my ideas is arrived. My sweat, my pain, the seemingly endless hours in the waiting room at the chiropractic clinic, my dog which died of malnutrition, they were all not in vain. I can now stand tall, with my head held high and my upper lip stiff, in the hallowed (or is it hollow) halls of academia". And so he wrote the paper and it got criticised. And he rewrote the paper and comments were made on it. And he rewrote the paper again and suggestions were put forwarded as to how he could improve it. And after seventy-five drafts and after the only original word left in the paper was his name (and even that had moved down the line of authors several times), the paper was submitted.

On the day Colin submitted the paper, he went home early, poured himself a beer and sat on the grass under a large tree in the backyard of his once happy home. The laughter of

his children echoed in his ears and he could hear the voice of his spouse equivalent calling him to help with the dishes. And as he realised what he had lost, tears welled up in his eyes and he sobbed his poor academic heart out. But as he bemoaned his fate and all that he had lost, his face suddenly brightened and he sat up straight, got to his feet and rushed inside the house. Colin stood in front of the mirror and looked at his battle-scarred face and with his voice choking with emotion said, "I may have lost almost everything, but I've still got my hypothesis".

And with that, he went back inside and began work on paper number two.

How to make money out of algae!

LES ALGUES

VOS ALLIEES POUR MINCIR

Les algues sont scientifiquement reconnues pour leurs propriétés stimulantes et modelantes, grâce à leur forte teneur en iode. Les algues sont donc utilisées en thalasso-thérapie pour leur propriétés amincissantes et raffermissantes. C'est pourquoi les laboratoires DANIEL JOUVANCE ont concentré leur infinie richesse dans «la **BILLE DE MASSAGE** effet localisé». En effet, ce tout nouveau produit contient:
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